

REMARKS

Applicant hereby responds to the Final Office Action mailed September 27, 2006 in relation to the above-identified patent application. In that Office Action, the Examiner rejected Claims 1-3, 5-14 and 16-21 under 35 U.S.C. §103(a) as being unpatentable over the combination of the Matthews et al. and Coyle references. Additionally, the Examiner rejected Claim 4 under 35 U.S.C. §103(a) as being unpatentable over the combination of the Matthews et al. and Coyle references, and further in view of the Sugihara et al. reference.

Independent Claims 1, 13 and 21 are not Rendered Obvious by the Combination of the Matthews et al. and Coyle References

In its current form, independent Claim 1 recites “...*a package body disposed on the film layer and extending to the peripheral edge thereof, the package body encapsulating the semiconductor die, the upper leads, and the transmission line element, and being adhered to the top film surface.*” Independent Claim 13 in its current form recites “...*a package body encapsulating the upper leads and the transmission line elements, the package body being disposed on the top film surface and defining a plurality of generally vertical body side surfaces which are substantially coplanar with respective ones of the film side surfaces.*” Finally, independent Claim 21 in its current form recites “...*a package body encapsulating the semiconductor die, the upper leads and the transmission line elements, the package body being disposed on the top film surface and defining a plurality of generally vertical body side surfaces and a generally horizontal body top surface which is substantially orthogonal to the body side surfaces.*”

In the subject Office Action, the Examiner asserts that the Matthews et al. reference teaches all of the features recited in Claims 1, 13 and 21, with the exception of the package body 140 thereof extending to a peripheral edge of a film layer, and a defining a plurality of generally vertical body side surfaces which are substantially coplanar with respective ones of the film side surfaces and a generally planar body top surface which is substantially orthogonal to the body side surfaces. To provide these particular teachings, the Examiner

relies upon the Coyle reference and its purported disclosure of a package body 38 which is adhered to the top surface of a film layer 32, defines a plurality of generally vertical body side surfaces which are substantially co-planar with respective ones of the film side surfaces, and defines a generally horizontal body top surface which is substantially orthogonal to the body side surfaces. In this regard, the Examiner concludes that it would have been obvious to one of ordinary skill in the art to use the package body teaching of the Coyle reference with the device disclosed in the Matthews et al. reference to create a robust molded scale package for interconnection to a flexible film package.

In the Matthews et al. reference, the element that the Examiner refers to as the “package body 140” is actually a glob top encapsulant which, as shown in Figure 2 and described in the specification of the Matthews et al. reference, is used to cover the electronic component 104 and bond wires 112 of the transceiver package 100 (see Matthews et al., column 5, lines 54-65). As is further described in the specification of the Matthews et al. reference and depicted in Figures 1 and 2 thereof, the glob top encapsulant 140 is covered by a shield 152 formed of an electrically conductive material. More particularly, the shield 152 is described as being formed in the shape of a hollow, rectangular box having its bottom missing, i.e., a rectangular lid (see Matthews et al., column 6, lines 8-12). The shield 152 includes a body 160 and a sidewall 162 which extends downward from the body 160. The sidewall 162 is described as terminating at a shield connection surface 164 which is a square annulus (see Matthews et al., column 6, lines 13-17). The shield connection surface 164 defined by the sidewall 162 of the shield 152 is electrically connected to a shield ring 182 disposed on the upper surface 102U of the substrate 102. The shield 152 is described as functioning to protect the electronic components of the transceiver package 100 which are covered thereby from radiation, and further preventing radiation from such electronic components from emanating to other electronic components or structures adjacent the transceiver package 100.

Applicant respectfully submits that the aforementioned teachings of the Matthews et al. reference do not support the hypothetical substitution of the glob top encapsulant 140 with the package body 38 described in the Coyle reference as apparently suggested by the Examiner in the subject Office Action. In this regard, the structural and functional attributes

of the shield 152 as highlighted above result in the shield 152 creating an uninterrupted barrier between the electronic component 104 of the transceiver package 100 and the peripheral edge or side surfaces of the substrate 102. Thus, since the glob top encapsulant 140 covering the electronic component 104 is completely housed within the interior of the shield 152, it seems highly unlikely that one of ordinary skill in the art would be motivated to modify the shape and size of the glob top encapsulant 140 beyond that shown in Figure 2 of the Matthews et al. reference to extend to the peripheral edge or side surfaces of the substrate 102, or to define side and top surfaces which are substantially orthogonal relative to one another. Indeed, in the transceiver package 100, the shield 152 creates a limiting barrier or impediment which would effectively prevent the enlargement of the underlying glob top encapsulant 140 to a size wherein it extends to the peripheral edge or side surfaces of the substrate 102.

Based on the foregoing, Applicant respectfully submits that the hypothetical modification of the transceiver package 100 of the Matthews et al. reference to substitute the glob top encapsulant 140 with the package body 38 of the Coyle reference appears to be based on nothing more than the application of disfavored hindsight. Accordingly, Applicant respectfully submits that independent Claims 1, 13 and 21 in their current form are not rendered obvious by the combination of the Matthews et al. and Coyle references, and are each in condition for allowance. Additionally, Applicant respectfully submits that Claims 2-12, 14 and 16-20 are also in condition for allowance as being dependent upon respective allowable base claims.

Conclusion

On the basis of the foregoing, Applicant respectfully submits that each and every pending claim of the present invention meets the requirements for patentability and respectfully requests that the Examiner indicate the allowance of Claims 1-14 and 16-21 of the present application. Additionally, Applicant respectfully submits that the present response does not raise new issues which would require further searching on the part of the Examiner, and therefore respectfully requests that the same be considered and entered by the Examiner. An early Notice of Allowance is therefore respectfully requested.

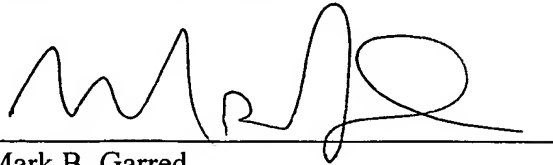
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Respectfully submitted,

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